



## INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

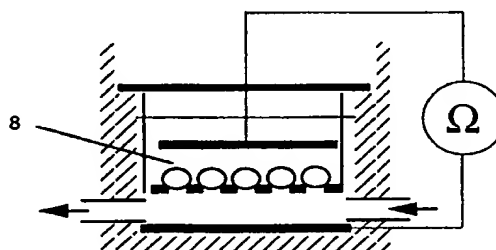
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(21) International Application Number: PCT/GB99/01871 (22) International Filing Date: 14 June 1999 (14.06.99) (30) Priority Data: 9812783.0 12 June 1998 (12.06.98) GB (71) Applicant (for all designated States except US): CENES LIMITED [GB/GB]; Compass House, Vision Park, Histon, Cambridge CB4 9ZR (GB). (72) Inventors; and (75) Inventors/Applicants (for US only): OWEN, David, Geraint [GB/GB]; CeNeS Limited, Compass House, Vision Park, Histon, Cambridge CB4 9ZR (GB). BYRNE, Nicholas, Gerard [GB/GB]; CeNeS Limited, Compass House, Vision Park, Histon, Cambridge CB4 9ZR (GB). (74) Agent: DAVIES, Jonathan, Mark; Reddie & Grose, 16 Theobalds Road, London WC1X 8PL (GB).		(81) Designated States: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZA, ZW, ARIPO patent (GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG). Published With international search report.	

(54) Title: HIGH THROUGHPUT SCREEN

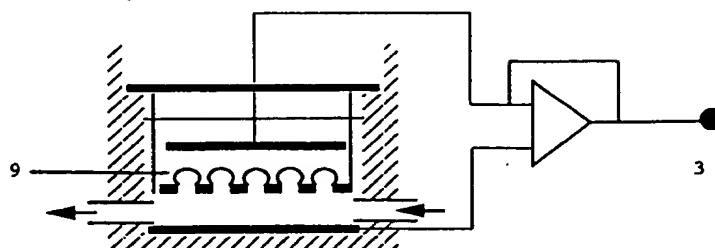
## (57) Abstract

The present invention relates to a structure comprising a biological membrane and a porous or perforated substrate, a biological membrane, a substrate, a high throughput screen, methods for production of the structure membrane and substrate, and a method for screening a large number of test compounds in a short period. More particularly it relates to a structure comprising a biological membrane adhered to a porous or perforated substrate, a biological membrane capable of adhering with high resistance seals to a substrate such as perforated glass and the ability to form sheets having predominantly an ion channel or transporter of interest, a high throughput screen for determining the effect of test compounds on ion channel or transporter activity, methods for manufacture of the structure, membrane and substrate, and a method for monitoring ion channel or transporter activity in a membrane.

A



B



### High Throughput Screen

The present invention relates to a structure comprising a biological membrane and a porous or perforated substrate, a biological membrane, a substrate, a high throughput screen, methods for production of the structure membrane and substrate, and a method for screening a large number of test compounds in a short period. More particularly it relates to a structure comprising a biological membrane adhered to a porous or perforated substrate, a biological membrane capable of adhering with high resistance seals to a substrate such as perforated glass and the ability to form sheets having predominantly an ion channel or transporter of interest, a high throughput screen for determining the effect of test compounds on ion channel or transporter activity, methods for manufacture of the structure, membrane and substrate, and a method for monitoring ion channel or transporter activity in a membrane.

Within the context of this specification the word "comprises" is taken to mean "includes" and is not intended to mean "is limited to only".

Ion channels are transmembrane proteins which form pores in the membrane which allow ions to pass from one side to the other (Hille, 1992). They **may** show ion specificity, allowing specific ions to passively diffuse across a